

Software Product Information

Fabasoft Mindbreeze Enterprise

Version 2013 Spring Release

Status: March 09, 2013



Copyright ©

Mindbreeze Software GmbH, A-4020 Linz, 2013.

All rights reserved. All hardware and software names used are registered trade names and/or registered trademarks of the respective manufacturers.

These documents are highly confidential. No rights to our software or our professional services, or results of our professional services, or other protected rights can be based on the handing over and presentation of these documents. Distribution, publication or duplication is not permitted.

.
.

Inhalt

1 Overview	5
2 System Overview	5
2.1 Fabasoft Mindbreeze Enterprise – Crawler Service	6
2.2 Fabasoft Mindbreeze Enterprise - Filter Service	6
2.3 Fabasoft Mindbreeze Enterprise - Index Service	6
2.4 Fabasoft Mindbreeze Enterprise - Query Service	6
2.5 Fabasoft Mindbreeze Enterprise – Client Service	6
2.6 Fabasoft Mindbreeze Enterprise – Management Service	6
2.7 Fabasoft Mindbreeze Enterprise – Advanced Configuration	6
2.8 Fabasoft Mindbreeze Enterprise – Guided Configuration	6
2.9 Access Check	7
2.10 Context Interface (CTX)	7
3 Features	7
3.1 Availability and Scalability	7
3.2 Extensibility	7
3.3 Fabasoft Mindbreeze Enterprise SDK - Support Matrix	8
3.4 Administration	8
4 Indexing	8
4.1 Software Update	8
4.2 Supported Data Sources	8
4.3 Supported File Types	9
4.3.1 Filters delivered by Mindbreeze	9
4.3.2 Linux	10
4.3.3 Languages and character codes of the documents:	11
5 Search	11
5.1 Overview	11
5.1.1 Search based on words and on phrases	12
5.2 Query Language	12
5.3 Search results	12
5.4 Sorting and grouping of search results	13
5.4.1 Preview and highlighting of search terms	13
5.4.2 Ranking	13
5.4.3 Navigation	13
5.4.4 Contextual actions	13
5.5 Search Tabs	13
5.6 Security	14

6 Supported Platforms and minimum System Requirements	14
6.1 Supported Operating Systems	14
6.2 Supported Languages	16
6.3 Minimum System Requirements	16
6.4 Important Notes for running Mindbreeze Enterprise Search	17
7 Condition of Use	17

1 Overview

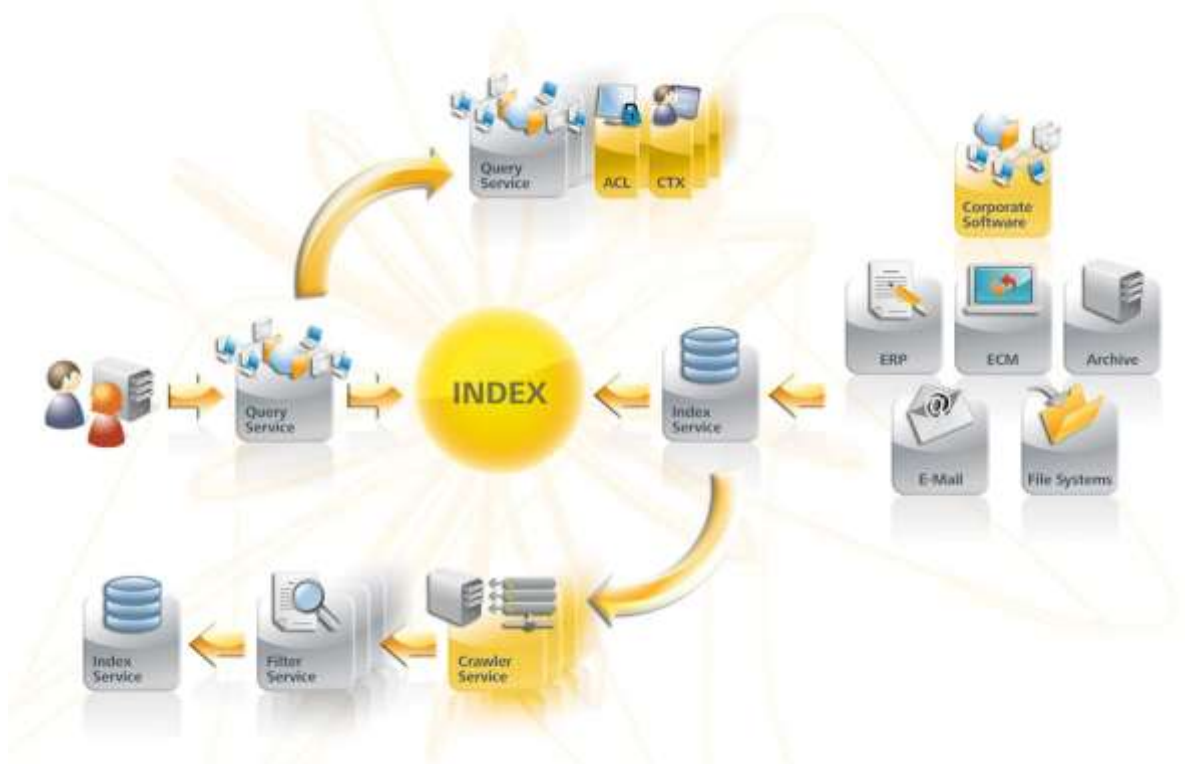
This software product information (SPI) defines the scope of usage and the features of the Fabasoft Mindbreeze Enterprise services. In addition, it provides an overview of the application interfaces and supported platforms.

Fabasoft Mindbreeze Enterprise is a software system enabling the search for information objects in a corporate context ("Enterprise Search Software"). Information objects can be any kind of information contained in structured, partially structured or unstructured storage systems. For most use cases these information objects will be document files in a file system, e-mails in an e-mail box system or documents in a document management system or archive.

2 System Overview

Fabasoft Mindbreeze Enterprise 2013 Spring Release comprises a multi-stage service-oriented architecture for indexing and searching document files and e-mails on desktop and server computers in enterprises.

For accessing systems containing contents to be indexed (for search) – i.e. data sources – the following architecture components are utilized: index service, filter service, crawler service, query service and client service. The chart below shows the logical components of this architecture.



The above chart shows the system for indexing typical schematic data sources. The components correspond to the essential working steps of the indexing process and will be discussed in the following chapters.

All components communicate based on HTTP/S connections.

2.1 Fabasoft Mindbreeze Enterprise – Crawler Service

The crawler searches the source system exhaustively for new and changed contents that need to be indexed.

This can be achieved in two ways:

- either the crawler searches the source system actively (e.g. file systems) to identify changed data and to forward them to the indexing process or
- the source system (e.g. DMS) is able to identify all changes itself and forwards this information to the crawler.

2.2 Fabasoft Mindbreeze Enterprise - Filter Service

The Fabasoft Mindbreeze Enterprise – Filter Service enables extraction and filtering of the textual information from various file types. For this purpose, document files are forwarded by the Fabasoft Mindbreeze Enterprise - Crawler Service to the Fabasoft Mindbreeze Enterprise - Filter Service.

Note: As of many proprietary formats the filter service cannot guarantee that the text/HTML output is 100% identical to the original file content.

2.3 Fabasoft Mindbreeze Enterprise - Index Service

In this working step, the actual index for full text search is created or updated if the source system was changed. The index store can be considered as storage with index information which optimized to answer search queries.

2.4 Fabasoft Mindbreeze Enterprise - Query Service

The clients connect with the Fabasoft Mindbreeze Enterprise – Query Service to query the index. Query loads can be distributed by utilizing several Fabasoft Mindbreeze Enterprise – Query Service and Client Service services. Several types of clients can be used (e.g. the Fabasoft Mindbreeze InApp client, to be integrated into third-party products), which can be realised based on the Fabasoft Mindbreeze Enterprise SDK.

2.5 Fabasoft Mindbreeze Enterprise – Client Service

The Fabasoft Mindbreeze Enterprise – Web Client connects with the Client Service to send queries to the Query Service.

2.6 Fabasoft Mindbreeze Enterprise – Management Service

The Fabasoft Mindbreeze Enterprise – Management Service enables central configuration and deployment of services for Mindbreeze Enterprise Search.

2.7 Fabasoft Mindbreeze Enterprise – Advanced Configuration

The Fabasoft Mindbreeze Enterprise – Advanced Configuration helps you to configure a distributed Fabasoft Mindbreeze Enterprise infrastructure.

2.8 Fabasoft Mindbreeze Enterprise – Guided Configuration

The Fabasoft Mindbreeze Enterprise – Guided Configuration helps you to configure a single instance of a Fabasoft Mindbreeze Enterprise - Index Service with several data sources.

NOTE: The Guided Configuration is supported on Microsoft Windows Platforms only.

2.9 Access Check

An essential component for securing access rights is the so-called access check. The access check ensures that the context of the user logged onto the system is evaluated for any potential search result and applied so that only those search results a user has the appropriate rights for will be displayed. This can be an external authorization of results or the authorization of results against an ACL (access control list) stored in the index. This depends on the data source connected via a specific connector.

2.10 Context Interface (CTX)

The context of files and documents that are displayed as search results in a client (within the context of a query) is provided by this component. This enables, for example, the provision of application-specific context menu entries for data and documents in the search result list.

3 Features

This sections shows all Features of Fabasoft Mindbreeze Enterprise.

3.1 Availability and Scalability

- The server-side Fabasoft Mindbreeze Enterprise software architecture is based on redundant units with either Microsoft Windows Server 2003 Enterprise Edition SP2 (64-bit, x64), Microsoft Windows Server 2008 Enterprise Edition R2 (64-bit, x64), Red Hat Enterprise Linux 6.2 (64-bit, x64) or CentOS 6.2 (64-bit, x64) operating systems
- The scaling via hardware units optimizes response times and makes the system highly available. In addition, a redundant structure of backend systems increases availability and in this way avoids a typical "Single Points of Failure". The following redundancy options are possible:
- The Fabasoft Mindbreeze Enterprise – Client Service can be operated redundantly with the use of load balancing hardware.
- The Fabasoft Mindbreeze Enterprise – Query Service can be operated for each physical index redundantly with the use of load balancing hardware.

3.2 Extensibility

Fabasoft Mindbreeze Enterprise comprises the following SDK interfaces:

- Extensibility of the system via file filters on Microsoft Windows platforms - via the de facto standard interface "IFilter".
- Extensibility of the system via file filters on Microsoft Windows platforms - via the Fabasoft Mindbreeze Enterprise - Filter Interface.
- Connection of additional external data sources via the Fabasoft Mindbreeze Enterprise Connector Interface. Mindbreeze provides a Software Development Kit (SDK) for implementation of these interfaces by third-party manufacturers, which is available at <http://www.mindbreeze.com/developer>.

3.3 Fabasoft Mindbreeze Enterprise SDK - Support Matrix

The Fabasoft Mindbreeze Enterprise SDK was updated for the 2013 Spring Release. Please make sure you use the updated SDK for future development.

The Fabasoft Mindbreeze Enterprise 2013 Spring Release supports the following SDK versions:

- Fabasoft Mindbreeze Enterprise SDK 2013 Spring Release
- Fabasoft Mindbreeze Enterprise SDK 2013 Winter Release
- Fabasoft Mindbreeze Enterprise SDK 2012 Fall Release
- Fabasoft Mindbreeze Enterprise SDK 2012 Summer Release
- Fabasoft Mindbreeze Enterprise SDK 2012 Spring Release
- Fabasoft Mindbreeze Enterprise SDK 2012 Winter Release

3.4 Administration

Fabasoft Mindbreeze Enterprise provides a central configuration tool for creation, regular maintenance and administration of index catalogues. In addition, this central tool distributes the system components to the servers of the entire system. Central administration comprises all components of Fabasoft Mindbreeze Enterprise (Fabasoft Mindbreeze Enterprise – Crawler Service, - Filter Service, - Index Service, - Query Service, - Client Service) from a single point.

4 Indexing

Server-side contents are indexed by the Fabasoft Mindbreeze Enterprise – Crawler Service component at regular intervals. The intervals can be defined for each data source (in seconds).

4.1 Software Update

Re-indexing is in general not necessary for a software update from version 2012 Fall Release to version 2013 Fall Release, nevertheless for filesystem datasources all indices need to be rebuilt. Reason: Change of the ACL format in the indices for filesystem data.

4.2 Supported Data Sources

Fabasoft Mindbreeze Enterprise 2013 Spring Release supports the data sources listed below for indexing, navigation and interaction during search. Additional data sources can be integrated via the Fabasoft Mindbreeze Enterprise Connector Interface and the Fabasoft Mindbreeze Enterprise Software Development Kit (SDK) made available.

File Systems:

- Microsoft Windows NTFS based file systems with NTFS authorisation concept (prerequisite: Kerberos authentication and integrated login)
- Microsoft Windows FAT32 based file systems (without authorisation concept, “public unrestricted access”)
- Only Microsoft Windows file shares with user accounts in Microsoft Active Directory are supported. Linux and Samba shares are not supported.
- Mail Server:
- Microsoft Exchange Server 2007 (prerequisite: Kerberos authentication and integrated login respectively SAML 2.0 infrastructure according to note)

- Microsoft Exchange Server 2010 via the Microsoft Exchange Connector Plugin (prerequisite: Kerberos authentication and integrated login respectively SAML 2.0 infrastructure according to note)

Microsoft SharePoint 2007

- Microsoft SharePoint 2007 (Kerberos authentication and integrated login required respectively SAML 2.0 infrastructure according to note)
- The Fabasoft Mindbreeze Enterprise – Microsoft SharePoint Crawler can be used to crawl „Document Libraries“ of Microsoft SharePoint 2007 datasources, these can be indexed.
- The following metadata information gets default extracted:
 - listId: ID of a Microsoft SharePoint list
 - sharepointURL: URL of a Microsoft SharePoint server
 - listName: Name of a Microsoft SharePoint list
 - folder: Folder within a document list
 - site: Name of a Microsoft SharePoint site

Web

The Fabasoft Mindbreeze Enterprise – Web Connector allows to crawl intranet and extranet sources by following links extracted from HTML sources. The following policy can be restricted to different levels: all, site only, link-depth, sitemap. Access restrictions for the Web Connector are set to unrestricted public access, meaning, if you need to restrict access to certain web content you need to implement a plugin based on the Fabasoft Mindbreeze Enterprise SDK that fits your situation and need.

Third party components:

Authentication mechanisms with the Fabasoft Mindbreeze Enterprise Web Client other than Kerberos (e.g. certificate-based authentication, form-based authentication, basic authentication,...) can be established by providing a SAML 2.0 identity provider infrastructure.

Note: Using Fabasoft Mindbreeze Enterprise 2013 Spring Release Client Service together with SAML 2.0 Identity Provider (IdP) was tested exclusively with the SAML 2.0 compliant Shibboleth 2.1.5 IdP. Other SAML 2.0 IdPs may but are not guaranteed to work out of the box.

IMPORTANT NOTE: Operating nodes interleaved between Linux and Windows are only supported for Fabasoft Mindbreeze Enterprise - Filter Service, exclusively. A mixed operating system deployment of Fabasoft Mindbreeze Enterprise services is not supported.

4.3 Supported File Types

4.3.1 Filters delivered by Mindbreeze

Microsoft Office:

- Versions
 - Microsoft Word, Microsoft Power Point, Version 2000 to 2007
 - Microsoft Office: Microsoft Excel, Version '97 to 2007
- Formats: PST, MSG, DOC, PPT, XLS, DOCX, PPTX, XLSX

Mail: MBOX, EML

Calendar: ICS

Contact: VCF

Open Document Format: ODT, ODS, ODP

Open Office:

- Versions
 - OpenOffice.org Version 1.1 to 3.2
 - OpenDocument Version 1.0
- Formats: SXC, SXD, SXI, SXW

Text files: TXT

Images: BMP, GIF, JPEG, JPG, PNG, TIF, TIFF, PNM, PGM, PPM, PBM, SVG

Web: HTML: CFM, HTM, HTML / XHTML: XHT, XHTML

Audio: MP3, AU, AIF, WAV, MID

Ebook: EPUB

ASCII- and ANSI-based text files (UTF-8)

Archive files: ZIP, JAR

Additional supported formats: PDF (Adobe PDF Format), RTF, URL, XML, COOML, RDF, FLV (Flash-Video), CLASS (Java Class Files)

Extensibility via the Fabasoft Mindbreeze Enterprise Filter interface or the Microsoft IFilter interface:

The file types supported by Fabasoft Mindbreeze Enterprise can be extended to Microsoft Windows platforms via filters in the "IFilter" standard format provided by third-party manufacturers, which include:

- Microsoft Office Visio, Version 2000-2003
- Tagged Image File Format TIFF
- file archives, e.g. RAR
- CAD formats
- etc.

4.3.2 Linux

Filter for the following extensions are supported:

Microsoft Office:

- Versions
 - Microsoft Word, Microsoft PowerPoint, Version 2000 to 2007
 - Microsoft Office: Microsoft Excel, Version '97 to 2007
 - Microsoft Outlook 2003 - 2007
- Formats: PST, MSG, DOC, PPT, XLS, DOCX, PPTX, XLSX

Mail: MBOX, EML

Calendar: ICS

Contact: VCF

Open Document Formats: ODT, ODS, ODP

Open Office:

- Versions

- OpenOffice.org Version 1.1 to 3.2
- OpenDocument Version 1.0
- Formats: SXC, SXD, SXI, SXW

Textfiles: TXT

Images: BMP, GIF, JPEG, JPG, PNG, TIF, TIFF, PNM, PGM, PPM, PBM, SVG

Web: HTML: CFM, HTM, HTML / XHTML: XHT, XHTML

Audio: MP3, AU, AIF, WAV, MID

E-Book: EPUB

ASCII- and ANSI-based Textfiles (UTF-8)

Datafiles: ZIP, JAR

Additional supported formats: PDF (Adobe PDF Format), RTF, URL, XML, COOML, RDF, FLV (Flash-Video), CLASS (Java Class Files)

NOTE: The Fabasoft Mindbreeze Enterprise – Filter Service analyzers and filters files according to their content. A 100% complete and correct filtering of all contents can't be granted.

Restrictions for using the “Microsoft Outlook PST file” filter:

- During a delta index run, documents are not removed from the index, even if they were deleted from the indexed PST file.
- During a delta index run, documents (PST contents) are not removed from the index, even if the indexed PST file itself was deleted.

It is strongly recommended to create a separate index for Microsoft Outlook PST files.

4.3.3 Languages and character codes of the documents:

Fabasoft Mindbreeze Enterprise supports the Unicode standard – in this way, all language and character set systems defined by this standard are supported.

5 Search

5.1 Overview

The queries the Fabasoft Mindbreeze Enterprise Web Client sets off against server-side contents are taken over by the Fabasoft Mindbreeze Enterprise - Client Service of the Fabasoft Mindbreeze Enterprise architecture.

Users can search in one or more index catalogues at the same time using the Fabasoft Mindbreeze Enterprise Web Client. The catalogues can be located on one or more servers. The search results originating from specific indexes can be displayed or hidden as required by the user.

5.1.1 Search based on words and on phrases

Fabasoft Mindbreeze Enterprise enables an exact search for words (word based search) and for groups of words (phrase search). Such search will only display those results which contain the entire search term (single word or phrase).

5.2 Query Language

Fabasoft Mindbreeze Enterprise has an intuitive query language as known from Internet search engines.

By default, all search terms separated by space characters are forwarded to the search engine via a logic AND operator. A search for phrases can be performed by using quotation marks. The results can be limited by specifying the file type (file extension) and by specifying a category (e-mail, file, etc.) (see user manual).

In addition to the automatic AND operation, the Boolean operators "AND" and "OR" and brackets can be used. This enables performing a more detailed search.

Proximity of words can be used by "NEAR" to display preferably those results where both search terms are closer together.

The search also supports wildcards at the ending of words. The search functionality automatically provides a wildcard search in a special situation. During a search in the "title" metadata, wildcards are implicitly supported at the beginning and at the end of the search term; e.g.; a search for "report" will return results for *report* in the "title" metadata.

5.3 Search results

The search results are displayed in the main window according to categories. Depending on the search result, the following categories may be displayed (if there are results in the respective category):

- Files: The search term(s) is/are contained in the full text of the document or in a selection of the additionally stored metadata.
- E-mails: The search term is contained in the full text or in common boxes (sender, subject, etc.).
- Contacts: The search term was found in the data boxes of a Microsoft Exchange/Outlook contact.
- Calendar: The search term was found in the Microsoft Exchange/Outlook calendar entries.
- Tasks: The search term was found in the Microsoft Exchange/Outlook tasks.
- Notes: The search term was found in the Microsoft Outlook/Exchange notes.
- Application-specific category names defined by integrators: (e.g. Fabasoft Components): list hits of the respective category with the possibility of assigning subcategories.
- Images including preview: The search term is contained in the file name or in the directory of an image.

The number of hits selected by the user are displayed for each category. Besides the navigation buttons ("Next", "Back") the hits of each category are dynamically classified to find the result faster. The type and manner of classification depends on the sorting of the result. If the result is sorted by date, classification will be done in time segments. Depending on the dimension of time covered by all results, results of this category will be divided into years, quarters and months (so-called "drill down" over time).

5.4 Sorting and grouping of search results

This sections describes how to preview, highlight search terms and how to range and navigate in search results.

5.4.1 Preview and highlighting of search terms

The main window displays the search results in two levels of detail. The overview only displays essential elements (e.g. name, place or date) to get a relatively quick overview of the results; such display varies according to the metadata which is available for the hits. In the more detailed view, a text preview of the content is provided, trying to display relevant passages of the summary text saved in the index. Each search term is highlighted in a different colour.

5.4.2 Ranking

During the search the results are sorted within a category according to semantic relevance or chronologically, displaying the more important or more recent elements first. In the case of a chronological sorting the date of the last modification is used.

Alternatively, a ranking algorithm may be chosen which considers several criteria, including the number of times a search term is contained in a document and in what position (content-based ranking) for calculating a ranking based on the quality of a search result. When searching several phrases, the proximity of the phrases is considered, like when searching with "NEAR".

5.4.3 Navigation

Fabasoft Mindbreeze Enterprise allows for a simple and very quick navigation through the search results by means of the contextual navigation elements. In addition to the buttons for browsing (forward and backward), the divisions calculated online and dynamically are available. This enables a behaviour for fast navigation called "drill-down" in database technology. Even without knowing much about a searched object (few search terms), the result can be found simply and quickly.

5.4.4 Contextual actions

In addition to opening a result (starting the associated application), Fabasoft Mindbreeze Enterprise provides many possibilities for processing the searched object. Depending on the type, the context menu offers options for opening an object with other programs, opening the containing folder, copying the object to the Microsoft Windows clip board or displaying it in the Microsoft Windows Explorer. For each data source (source system) this menu is adapted to the conditions of the data source via the context interface and/or extended.

5.5 Search Tabs

Fabasoft Mindbreeze Enterprise offers so called „Search Tabs“. „Search Tabs“ allow to constraint search requests for certain views. „Search Tabs“ are defined in user profile files and can be

- one setting for all users and/or
- dedicated settings on a per user basis.



The following metadata keys can be used for "Search Tabs" with Fabasoft Mindbreeze Enterprise:

- `fqcategory/category`

- categoryclass
- key
- url
- mailbox
- directory/folder/path
- extension
- language
- title
- mes:size
- mes:date

Note: All extended metadata are not supported as „Search Tab“ constraints with Fabasoft Mindbreeze Enterprise.

5.6 Security

Fabasoft Mindbreeze Enterprise displays only those search results for which the current user has access rights (at least read-only access)..

For access checking Fabasoft Mindbreeze Enterprise supports the following options according to the data source.

- Online access check for the data source is performed via the correlative Fabasoft Mindbreeze Enterprise interface. This secures within all systems to factor all changes in access rights and prevent security risks. If the access check fails the actual displayed content (e.g. a document) is removed from the result list and is not displayed.
- Within the indexing process Authorization information (ACLs) can be added to the index. This grants a constant search rate without any external dependency. The user has to account a latency for the authorization information in the index.

6 Supported Platforms and minimum System Requirements

6.1 Supported Operating Systems

Fabasoft Mindbreeze Enterprise 2013 Spring Release is available on the following platforms:

Fabasoft Mindbreeze Enterprise - Filter Service, - Index Service, - Query Service, - Client Service

- CentOS 6.3 (x64) incl. SE Linux-Support
- RHEL 6.3 (x64) incl. SE Linux-Support
- Microsoft Windows Server 2008 R2 SP1 (x64)
- Microsoft Windows Server 2012

Fabasoft Mindbreeze Enterprise - File System Crawler Service

- Microsoft Windows Server 2008 R2 SP1 (x64)
- Microsoft Windows Server 2012
- Supported data enabling
 - Microsoft Windows data enabling and DFS
 - Dateisysteme: FAT32 und NTFS

Fabasoft Mindbreeze Enterprise – Microsoft Exchange Crawler Service

- Microsoft Windows Server 2008 SP1 (64-bit, x64)
- Microsoft Windows Server 2012
- Supported Microsoft Exchange versions:
 - Microsoft Exchange Server 2007 (64-bit, x64)
 - Microsoft Exchange Server 2010 (64-bit x64)
via the Microsoft Exchange Connector Plugin (new)

Fabasoft Mindbreeze Enterprise – Web Connector

- CentOS 6.3 (x64) incl. SE Linux-Support
- RHEL 6.3 (x64) incl. SE Linux-Support
- Microsoft Windows Server 2008 R2 SP1 (x64)
- Microsoft Windows Server 2012

Fabasoft Mindbreeze Enterprise – Microsoft SharePoint Connector

- Microsoft Windows Server 2008 SP1 (64-bit, x64)
- Microsoft Windows Server 2012
- Supported Microsoft SharePoint versions:
 - Microsoft SharePoint 2007 (64-bit, x64)

Supported Client Operating System for Webbrowser Client

- Operating Systems
 - Microsoft Windows XP SP3 (x86)
 - Microsoft Windows 7 SP1 (x86+x64) (incl. x64 Browser)
 - Microsoft Windows 8
 - Ubuntu 12.10 (x86)
 - Mac OS-X 10.8 (x64)
- Supported Browsers
 - Internet Explorer 8 (XP)
 - Internet Explorer 9 (Win 7, Win 8)
 - Internet Explorer 10 (Win 8)
 - Firefox 18 (XP, Win 7, Win 8, Ubuntu 12.10, Mac OS-X)
 - Safari 6 (Mac OS-X)
 - Chrome 24 (Win 7, Win 8, Mac OS-X)
 - Chromium 24 (Ubuntu 12.10)
 - iPhone 4/4S/5/iOS6

- iPad 2/3/iOS6
- Phones/Android 2.3 / 4.1
- Tablets/Android 3.x / 4.1

On Microsoft Windows platforms, the Microsoft .NET Framework 4.0 (4.0.30319) as well as Oracle Java 7 Update 11.

6.2 Supported Languages

User interface of the software product:

- English: Fabasoft Mindbreeze Enterprise Server Configuration

Fabasoft Mindbreeze Enterprise - Web Client Improvements:

Standard support of language-packs for

- English
- German
- Italian
- French
- Bulgarian
- Croatian
- Czech
- Hungarian
- Portuguese
- Romanian
- Serbian
- Slovak
- Slovenian
- Spanish
- Russian

Documentation:

- English/German: Installation and Administration Manual

6.3 Minimum System Requirements

Fabasoft Mindbreeze Enterprise can be implemented in a minimum system configuration without strict response times of the system as follows:

- One server for running the Fabasoft Mindbreeze Enterprise - Index Service, the Fabasoft Mindbreeze Enterprise - Filter Service, and the Fabasoft Mindbreeze Enterprise - Query Service.

NOTE: Hardware requirements mainly depend on the use cases, datasources, size and number of objects that are indexed and can therefore vary in many ways.

A minimal configuration for maximal 6.000.000 objects (e.g. documents, objects) is the following:

- 2 x Intel QuadCore > 2.8 GHz
- at least 32 GB RAM
- 8x 300 GB SAS HDD (10k rpm) - Partition (RAID-1+0)
- 2 x Gigabit Ethernet (Cu)

This configuration can run up to:

- 6 Fabasoft Mindbreeze Enterprise - Index Services / Query Services
- 1 Fabasoft Mindbreeze Enterprise - Filter Services (dependant on the number of threads that are used by the several datasource-crawlers)
- 1 Fabasoft Mindbreeze Enterprise - Client Service
- Per Fabasoft Mindbreeze Enterprise - Index Service 1.000.000 objects are recommended to store as a maximum.

These numbers are estimated numbers and will vary from one installation to the other.

NOTE: Fabasoft Mindbreeze Enterprise Services are not supported to run in virtual environments (e.g. VMware, XEN).

6.4 Important Notes for running Mindbreeze Enterprise Search

- During the first index-run or during a delta-index-run queries against the Fabasoft Mindbreeze Enterprise – Query Service are not supported.

7 Condition of Use

- All statements contained in this software product information concerning designated use and operating conditions of the program exclusively constitute principal information. To ensure and guarantee that the program is used in accordance with the designated use and operating conditions in everyday use, expert training by qualified expert staff is mandatory.
- The minimum hardware and software requirements for any future versions of this product may differ from the requirements of this version (see chapter "Supported Platforms and Minimum System Requirements"). A specific software product version of a third-party manufacturer that is integrated into a Mindbreeze software product will be supported by Mindbreeze no longer than that software product version is supported by the third-party manufacturer itself. For instance a particular version of an integrated Microsoft software product is only supported by Mindbreeze until the date on which the Microsoft "Extended Support Phase" for that software product version ends.
- Third-party software products that are required or supported by Mindbreeze products, proper licensing and installation of the same, necessary tests prior to product release, as well as appropriate manufacturer support are not included in the scope of delivery and services and, therefore, they are not subject to warranty of Mindbreeze regarding functionality, mode of operation or features. Mindbreeze shall not be liable for errors or malfunctions, which are caused by third-party software products and/or software products that are not included in the scope of delivery and services. Thus, Mindbreeze may only be liable - apart from the other requirements - if it is shown that the third-party products work without errors. In connection with the interaction of hardware and software environments reference is made to the information given in the licence agreement.

- Mindbreeze does not make any explicit or implicit statements concerning performance or response times of Mindbreeze software products because performance and response times significantly depend on the infrastructure used. For layout, configuration and sizing of the relevant infrastructure please see the information, recommendations and specifications of the relevant manufacturers.
- In particular no functionalities for backup, restore or disaster recovery are included in the scope of delivery of Mindbreeze software products.
- This program is intended for customary commercial use. This does not include usage that demands special security requirements.
- The licensor reserves the right to modify the conditions of designated use and the operating conditions of the program, which means that the product manufacturer exclusively holds title to proprietary rights.
- The customer acknowledges that the customer is exclusively responsible for the protection of its business secrets, trade secrets and professional secrets as well as for safeguarding all protected legal positions and related legal consequences from publication of the customer's work results.